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MISSION BI-SPECTRAL
EXPERIMENT ANALYSIS

25X1

25X1

A. Overall Mission Analysis

I. At processing site

II. At PET

III. Detailed frame analysis

a. W25 vs. W21

b. W25 vs. SF05

c. Image Quality relative to solar position

d. Fwd vs. Aft

B. Degradation of B & W Imagery

I. Basic Image Quality

a. Fwd (W25) vs. Aft (W21) (High-Med-Low sun angle)

1. Subjective

(A) Density

(B) Contrast

(C) Acuity

2. Objective

(A) Density readings

(B) Micro-D Contrast Analysis

(C) Acuity measurement analysis

II. Bi-Spectral Negs vs. Normal Negs.

a. Fwd (W25) vs. Aft (SF05) (High-Med-Low Solar Elv.)

1. Subjective

Declass Review by NIMA / DoD

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(A) Density

(B) Contrast

(C) Acuity

2. Objective

(A) Density

(B) Contrast

(C) Acuity

III. P.I. Analysis

a. Fwd vs. Aft (High-Med-Low sun angle)

1. Shadows

2. Highlights

3. Overall

b. W25 vs. SFO5 Imagery (High-Med-Low sun angle)

1. Shadows

2. Highlights

3. Overall

IV. Conclusions

C. Value of Bi-Spectral Technique

I. Selection of Images

a. Density difference

b. Correlation of prin. ray

c. Ground truth

d. Format locations

II. Analysis of Images

a. Densitometry

b. Magnitude of differences (densitometrically)

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- c. Probably reason of difference
 - 1. Color
 - 2. Texture
 - 3. Look angle
- d. Added P.I. Information
 - 1. Reliability
 - 2. Time element
 - 3. Importance
 - 4. Isodensitracing feasibility

III. Observations and Conclusions

- a. Feasibility
- b. Value
- c. Time element
- d. Cost
- e. Additional development

D. Bi-Color Analysis

- I. Feasibility Study
 - a. Ekit report
 - b. Photography analysis
 - c. Conclusions

II. Equipment Procurement

- III. Presentation of samples as selected in Item C.
- a. Subjective
 - 1. Apparent color definition
 - 2. Apparent tonal lattitude

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3. Apparent resolution
 4. Added "color" information value
 5. Added change detection value
- b. Objective Analysis
1. Color photographs of screen
 2. Resolution as measured from resolution target displays
 3. Best intermediate scale for presentation

IV. Summary and Conclusions

a. Value of bi-color photography

1. Advantages

(A) Subjective

(B) Objective

2. Disadvantages

(A) Subjective

(B) Objective

b. Recommendations

E-X. Summary Report Perspective Items I through IV

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